All-In-One Print Server F1UP0002 / F1UP0302

Overview and default settings

The new All-In-One Print Servers F1UP0002 and F1UP0302 are to replace the old print servers F1UP0001 and F1UP0301. Contrary to their predecessors, these will work with multi-function printers and will offer bidirectional support. In order to use the print server that way, it “virtualises” the USB port and redirects data sent to it via the network to the printer.

The unit can operate in two modes: “Classic” Print Server mode, which is similar to the print servers as you know them, using TCP/IP printing protocols like LPR, Raw or IPP, and All-in-one Print Server mode in which all functions of multifunctional devices can be used. In this case it does not use a special port, it works by means of redirection of USB data.

The unit is equipped with LAN, a WLAN and a status LED. The LAN and WLAN LED will be solid when connected, will blink to indicate traffic. The WLAN LED will flash rapidly when trying to establish a connection. The status LED (the one in the middle) will blink rapidly when a client is connected and/or a print job is in progress, it will be off if the print server is idle.

As with the previous models, wireless connectivity will be disabled when the LAN is connected (site survey will still be available). The unit is by default a DHCP client and will fall back to 192.168.2.253 on a timeout. The default user name is "admin", but is ignored, the default password is "1234". The name of the print queue for LPR/IPP printing is "lpt1". To reset the unit, press the reset button for 10 seconds. All the LEDs will go on or off to confirm the reset is taking place.

All-In-One print server mode

All-In-One (AIO) Print Server mode is available on Windows 2000 with SP4+ and Windows XP with SP1+ only. It works by means of a “USB redirector” driver that will redirect the data for the USB printer/fax/scanner over the network via the print server. This is transparent for the software using the multi-functional device.

Only one computer can use the print server in AIO mode at any one time. It will need to connect to the printer before it can be used and it will need to disconnect before other machines can use it. Connecting and disconnecting is done via the software; it can be done manually and automatically.

"Classic" print server mode

“Classic” Print Server (PS) mode works the same on the all-in-one print servers as it does on the current print servers. It can be used for printing only, no scanning, faxing etc. via LPR or RAW protocols. It can be used to print from older versions of Windows and/or from Mac OS, Linux and other Operating Systems. Like the F1UP0001 the unit supports LPR and RAW printing; it does also support Internet Printing Protocol (IPP).

Installation

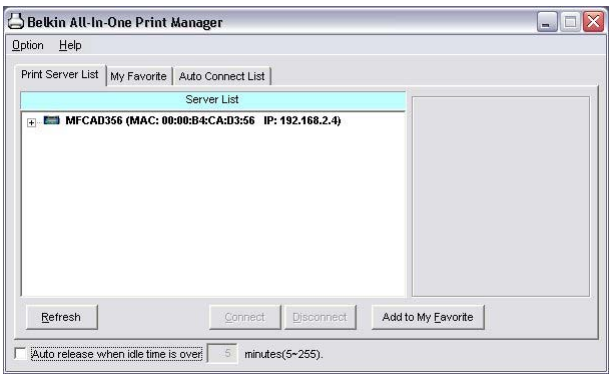
The software installer is the same for all versions of Windows, it will install the utilities appropriate for the host platform. The QIG instructs users to install the print server when it is hard wired to a router. During the installation, the print server can be configured to connect wirelessly.
If a printer is not already installed, the intention is to install the printer software after the print server has been installed. When the printer software prompts to have the printer connected, the user is connect to the printer using the print server software rather than connecting the printer itself physically.

Software

The All-In-One Print servers come with several pieces of software:
Belkin All-In-One Print Manager is used to connect to and disconnect from printers in AIO mode; it is installed on Windows 2000 (SP4+) and Windows XP only.
Belkin All-In-One Server Manager is installed on all Windows client and is used to manage the print server itself.
Belkin Network Ports Setup is used on Windows 98 and ME to easy setup network ports to print to;
Web Interface. Just like its predecessors the all-in-one print servers have a web interface. It offers all the options of the Server Manager except for the forced disconnection of clients and the option to specify the Domain country

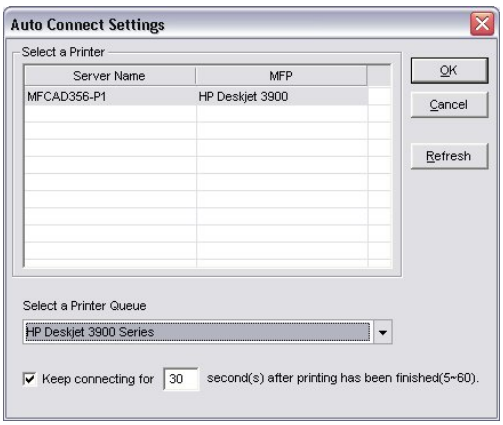
Off-Line versions of all these utilities and of the web interface are available on Pyramid

All-In-One Print Manager



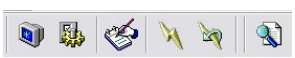
The Print Manager is used to connect to printers and disconnect from them. The Print Server List tab will show the available print servers in the network and will allow the user to connect to them and disconnect from them. If a printer is busy, this will be indicated; if another computer is connect to the printer, the network name of the computer will be shown with its contact information.

It is possible to add printers to a list of favourites; this will be most useful in an environment with many print servers. The Auto-connect list is more useful: it allows you to associate print servers with Windows printer queues. As soon as you print something to the queue, the print manager will try to establish the connection with the print server. The connection will be freed shortly when the job is finished, by default after 30 seconds.



The Print Manager is by default installed to start when Windows starts and it will show itself as an icon in the system tray. The processes associated with it in the processes list are ServoApp.exe and MFPAgent.exe

The Server Manager



The Server Manager is used to manage and configure the print servers in the network. The utility can operate in status model, showing the print servers in the network and their statuses, and in setup mode in which the print servers can be configured. Switching between these modes is done with the first and second buttons in the toolbar. The monitor icon selects status mode, the tool icon setup mode.

The third toolbar button (writing pad) shows a report of available print servers, the fourth (lightning symbols) is used to refresh the print server status, the fifth (lightning with arrow) to reboot the print server to activate new settings. The last button (magnifying glass) will start a new search for print servers.

The bottom right of the window shows messages. It will indicate when settings have been saved and when the print server needs to be restarted in order to complete the operation. It is OK to change several settings before restarting and only do a restart if all the changes have been made.

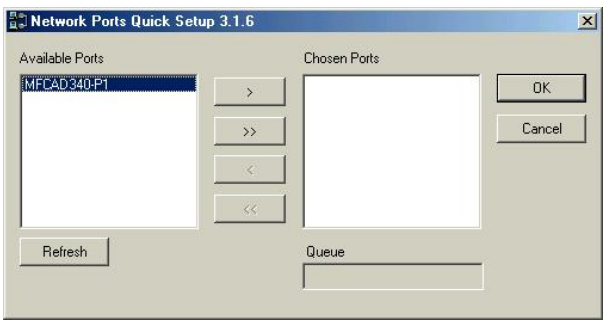
When the Server Manager is in setup mode, it will show five icons for managing part of the print server. The first time one of them is selected, you will be prompted for logon information, the default password is 1234.

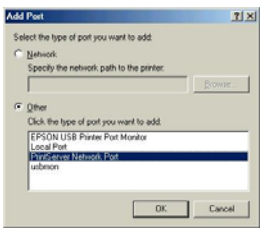
The General setup is used to specify the print server name (by default this is MF followed by the last 6 digits of the MAC address) and the password. The password is limited to seven characters maximum.

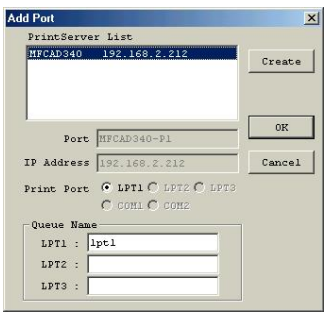
TCP/IP setup is used to specify an IP address or put the unit in DHCP client mode (which is default). You can also configure the unit to be a DHCP server; this maybe useful in ad-hoc networks. The System icon is use to update the firmware and to set the wireless mode (by default: auto, which means enabled when no Ethernet cable is connected) and specify the range of allowed channels. The Wireless icon is used to configure the wireless network the print server is to connect to, you can either specify the SSID or use the site survey in it. The MFP Server Management allows you to force someone off the printer who did not disconnect and to specify a description for the printer.

Software for Windows 98 / ME

When the software is installed on Windows 98 or Windows ME, it will create a port type "Print Server Network Port" that can be used to create print ports for print servers. A utility program "Network port setup" is installed that searches for print servers and allows you to create ports for them. Alternatively, you can create a new Print Server Network Port from within the printer folder. At that moment, the software will search for print servers.







All-In-One Print Server and Firewalls

In order to operate and communicate over the network, a number of ports will need to be opened on PCs running the print server software. The installer will automatically open the ports in the Windows XP firewall (they will be opened to the local network only), customers may need to do so manually for other firewalls.

Opened ports and applications are:

MFP Agent	13878 UDP
MFP Bot Utility	13621 UDP
MFP Driver	14135 UDP and TCP
Print Server Utility	69 UDP, 13364 UDP, 13107 UDP

Product Status

The All-In-One print server will first ship in a limited edition to Argos. It should be in their stores around 21 August. Around the same time, we should have updated firmware and software to resolve all or most of the issues on the next page. Later hardware shipments of the print servers should include these fixes as a standard.

Known issues

Power supplies
Beware, the F1UP0002 is shipped with a 5 Volt switching power supply, the F1UP0302 with a 7.5 Volt linear one. Using the wrong PSU on the wireless print server will fry it, using the wrong one with the wired one may cause problems with firmware updates.

Unit has a problem reconnecting when channel is changed or router is restarted
When the wireless channel is changed or the router is restarted, the print server may have difficulty to reconnect to the network. It may need to be restarted

Drivers are not WHQL signed
On Windows XP the logo test warning will come up twice on installation. The problem with this is that the USB redirection driver that is installed is not a hardware driver and can as such not be WHQL signed. This problem is being investigated by the manufacturers and Microsoft

DHCP cooperation problems with some routers
Using the Server Manager is used to change the IP address of the unit from a fixed one to dynamic may fail on some routers (F5D7231, F5D7633) with an error message that the DHCP server cannot be found. Use the web interface as a work around.

Install may fail on some machines
We have seen a few occasions on which installation of the MFP Manager will fail with the message "SetupDienumdeviceinterfaces() returns code 259". Subsequently the manager cannot be started and the print server cannot be used in AIO mode. This will be investigated by the manufacturers. The only current work around is to use "classic" print server mode.

Auto-connect feature may not work correctly
We have seen the Auto Connect feature failing when two clients have it enabled and the second client starts a print job while the first client is connected. Work-around: do not use auto-connect

Web-interface issues when used with Firefox
There are some compatibility problems with Firefox: the TCP/IP settings do not display correctly and look empty, and when updating firmware via Firefox, the page that comes up when the update has been successful is messed up. The update itself works fine, restart the print server to make things work again.

Printer objects are duplicated
If a printer that has already been installed on a machine is used via the print server for the first time, a duplicate of the printer object will be created. This is caused by the way the print server works; it will not change. Work-around: delete the original printer object before connecting to the printer via the print server.

Software not compatible with WinXP 64-bits
The current version of the software does not work well with Windows XP 64-bits.

WLAN hardware does not support WPA2
The wireless hardware of the print server does not support WPA2. Use standard WPA instead.

Error message when logging in with guest account
Message "Error on calling OpenSCManager(), error code: 5" appears when logging on as Guest (not with a Limited User Account). This is a cosmetic problem; the software will work with the guest account.